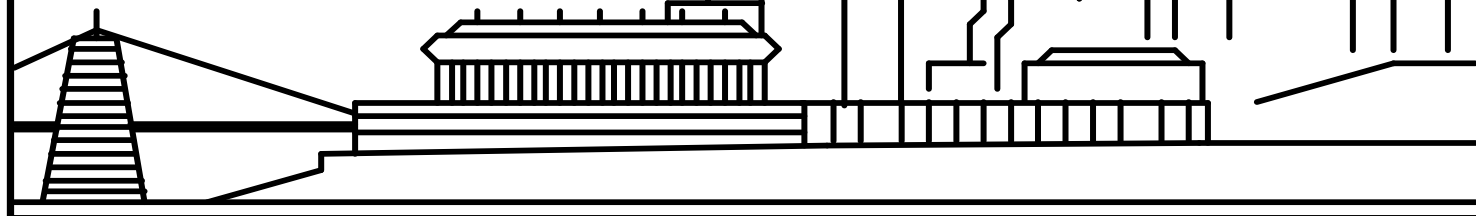




INSTITUTE OF
ELECTRICAL &
ELECTRONICS
ENGINEERS, INC.



MARCH 2000

IEEE CINCINNATI SECTION NEWSLETTER

MARCH MEETING

DOPPLER RADAR AND WEATHER OBSERVATIONS

DATE : March 23, 2000

PLACE : Hartwell Recreation Center - See directions and map on Page 2.

TIME: 7:00 PM (Program)
8:30 PM (Approx. - Adjournment)

Please call the Cincinnati Section Voice Mailbox at 629-9380, by **Noon, Monday, January 17, 2000** if you plan to attend. Please leave your **Name, IEEE Member Number, and a daytime telephone number.**

ABOUT THE MEETING/SPEAKER:

The program will highlight the theory of Doppler weather radar, signal processing, and the research related to the observation and measurement of many of the weather phenomena (tornadoes, solitary waves, wind shear, microbursts, etc.) made evident by the Doppler weather radar. Researchers at the National Severe Storms Laboratory developed a prototype Doppler weather radar to improve short term predictions and warnings of hazardous weather. This led to the implementation of the USA's national network of Doppler radars (NEXRAD). Similar Doppler weather radars have also been deployed around airports to detect wind shear hazards to safe flight. To relate radar observations to weather events commonly observed by eye, Doppler radar data fields presented in this talk will be correlated with photographs of the phenomena seen by eye. The Doppler radar detection of wind shear hazards to aircraft landing and departing airports will be discussed. Research related to future improvements of the NEXRAD system will also be presented.

The speaker will be Dr. Richard J. Doviak, Senior Engineer at the National Severe Storms Laboratory (NSSL). He received his B.S. degree in Electrical Engineering from Rensselaer Polytechnic Institute; his M.Sc. and Ph.D. degrees from the University of Pennsylvania. Upon joining the National Severe Storms Laboratory (NSSL), Dr. Doviak became Chief of the Doppler Radar Project for the development of the Next generation of weather Radars (NEXRAD). He is presently senior engineer at NSSL, a Professor in the departments of Electrical Engineering and Meteorology at the University of Oklahoma, and a visiting scientist at the National Center for Atmospheric Research. He was a visiting scientist at Kyoto University, Japan, and the Australian National University, and has presented lectures at many national and international organizations.

He was an Editor of the IEEE Transactions on Geoscience Electronics, an Associate Editor for the American Meteorological Society's Journal of Atmospheric and Oceanic Technology, and editor of several other journals

and books. He is author of over 80 refereed scientific articles in 16 journals spanning interests in the geosciences, engineering, physics, and meteorology. He is co-author of the internationally recognized book, "Doppler Radar and Weather Observations".

He received the IEEE's Harry Diamond Memorial Award, NOAA's outstanding paper awards, NASA's group Achievement Award for distinguished scientific contributions, and the Outstanding Service Award from the IEEE Geoscience and Remote Sensing Society. He is presently a Fellow of the IEEE and of the Cooperative Institute of Mesoscale Meteorological Studies.

MEETING LOCATION DIRECTIONS:



From the North: Via I-75 Southbound, take Exit 10, turn right onto Galbraith Rd. Go West, past Vine St, take turnout onto Pfau Rd. to Vine (Ohio Rt. 4). Right onto Vine Southbound. Right onto Caldwell just before the Railroad bridge. Turn left onto May into the parking lot.

From the West using I-74 and Cross County: I-74 to I-275 Northbound; I-275 Northbound to Cross County (Ohio Rt. 126); Ohio 126 to I-75 Southbound to Exit 9. Turn right at the end of the ramp; Under the second Railroad bridge, turn left onto Caldwell; Under expressway bridge, turn left onto May into the parking lot.

From the South: Via I-75 N, take Exit 9; Left onto Paddock / Vine / Ohio Rt. 4. Under the Railroad bridge to traffic signal (Caldwell); Left onto Caldwell, then left onto May into the parking lot.

THIS NEWSLETTER IS AVAILABLE BY E-MAIL OR ON THE WEB

By Bob Morrison, Editor

Did you know that you can get this newsletter by e-mail? You can also see it on the Section's Web Page at <http://ieee.cincinnati.fuse.net/>. In the last month, there have been over 100 Cincinnati Section members change to e-mail subscription.

If you would like to receive a sample copy via e-mail, call me at 287-3697 or send me an e-mail at j.r.morrison@ieee.org. If you like that method, let me know & I'll switch you over. If you decide you would like to simply view it each month on the Web, let me know and a reminder e-mail will be sent to you when the new issue has been posted.

CHAIR'S MESSAGE

by Ron Harbaugh, Section Chair

This year's Engineers and Scientists Awards Dinner and Program was held at the Receptions facility in Erlanger, Kentucky this year. Four of us attended to represent the Cincinnati Section of IEEE. Also attending was Al Schiede, an IEEE member and former chairman of the Cincinnati Section. As usual, the food was good, the speaker excellent, and the nominees deserving of their awards. Dr. Leon Boothe, currently Chair of the Underground Railroad Museum, gave a very good presentation of the history of the underground railroad and overview of the plans for the museum to be built south of the new Fort Washington Way. A member of the IEEE, Dr. Carl Evert, Jr., received the Distinguished Engineer award this year. Congratulations to Dr. Evert.

In early February, the Cincinnati Section received an announcement from Dr. Bruce Eisenstein, IEEE President, that seven individuals in the Cincinnati Section are recipients of the IEEE Third Millennium Medal. These medals are awarded for the extensive service these individuals have provided the Cincinnati Section and their contributions to the Institute of Electrical and Electronics Engineers, Incorporated. The medal recipients are:

Jack Beckmeyer, Cleves, retired, still active in IEEE
H. Randolph Holt, Cincinnati, Professor Northern Ky. University
William Lohner, Cincinnati, retired, former Pace chairman
Orest Melnyk, Wilder, Ky., Engineer at Cincinnati Bell
Joseph (Bob) Morrison, Cincinnati, Engineer at Cinergy
Richard Reiman, West Chester, retired, serves as Section Historian
Ronald Harbaugh, Sharonville, Cincinnati 911 Director, current Chair

Congratulations to all. Our deepest thanks to Jim Everly for his work developing the nominations on behalf of our Section.

Your Executive Committee is busy working on plans for the March, April, May, and June programs and activities. If anyone has an idea of any activity or program they would like to see, or hear, please contact any person listed at the end of this newsletter. It will help to provide us with a contact or a telephone number or it will take a long time for us to set up a meeting with the topic or tour of your choice. In either case, we appreciate the help.

UPCOMING SECTION MEETINGS AND TOPICS

April, 2000 - Section Meeting; Topic will be "PACE "

May, 2000 - Section Meeting; Topic will be " Appliance Applications – LINUX ".

Detailed information about the Section Meetings will be included in that month's newsletter. If you are interested in attending an Executive Committee Meeting, please contact either Ron Harbaugh or Jack Beckmeyer (see last page for phone numbers).

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Edwin C. Adams	Sukirti Gupta	Ian Papautsky
Nabil B. Ahmad	Peggy A. Haire	David R. Phillips
Leah Coates	Kirk M. Halgren	David M. Purpura
John W. David	Dennis M. Knuth	Steven L. Siebenaler
Rebecca M. DeAngelo	Mahesh K. Marina	William C. Slaven
Kawanda L. Dedrick	David P. Maxwell	Carolina Vasquez
Steven D. Esarey	Ajeet Ojha	Ying Xu

We wish to extend our welcome to all of our Section's new members!!!

The Man Who Invented the Web - Part 2

by Dick Reiman, Historian

Tim Burners-Lee of CERN had successfully created the memory software for finding things which would grow into the World Wide Web. He had demonstrated that his "Enquire" software could run on a NeXT computer, and if the links or signposts between documents were left even though the document were deleted, a global network could follow.

Burner-Lee developed three technical keystones for the Web: the language for encoding documents (HTML, hypertext makeup language}, the system for linking documents (HTTP, hypertext transfer protocol}, and the WWW.whatever system for addressing documents (URL. universal resource locator}.

Burners-Lee also wrote the first server software. It was he, and not Andreessen of Netscape who wrote the first "graphical user interface" Web browser. Andreessen's browser was the first to put pictures and text in the same window, a key innovation.

Ted Nelson with his "Xanadu" project had pursued the idea of a global hypertext system. Nelson wanted to make a profit on the venture and this complicated things. Burners-Lee, however, persuaded CERN to permit the use of intellectual property for the Web, and this was the significant difference. His browser was given to the public domain. What should it be called? Infomesh? World Wide Web? Or www? World Wide Web won out.

Burners-Lee meant for the Web to be a social place for working together with others. It became impersonal, a passive consumers tool. The failing is that the procedure for Website-editing software is so cumbersome.

Burners-Lee cites the Web as an example of early random forces that would dominate the development. The early uses were browsers, not editors, while Burners-Lee's first Web tool was an editor-browser. Tim chose to stay above the

Full time & Part time openings for non-, semi-, fully-retired EEs having a BSEE and a minimum of 7 years of experience in:

**Electronics Hardware Design / Electronics Software Design
Building Services Electrical Design / I&C Design**

TARPOFF MOORE ENGINEERING, INC.

513-598-8200 (phone) 513-598-5954 (fax)
email J. Tarpoff at: jtarpoff@tarpoffmoore.com or call

competition, and decided against starting a browser software company, and opted to stay neutral and try to bring technical harmony. He was not after the money.

Burners-Lee has no regrets on his choice. He is grateful that Andreessen co-authored a user-friendly browser, and thereby brought the Web to the public. He regrets that the third generation browser lacked the basic editing capabilities.

Burners-Lee's goal for the Web was as an organic expanse of collaboration, for the good of all. It could go the other way to let destructive cults tear down the society. He couldn't force people to nurture the global interests, or even for neighboring aids. He admits that technology can't make us good.

FREE ENGINEERING BOOKS

The Cinergy Corporate Information Center has the following hard bound Transactions from the IEEE and American Institute of Electrical Engineers that will be disposed of unless someone can provide a good home for them.

IEEE

Transactions on Power Apparatus & Systems 1969	Transactions on Power Apparatus & Systems 1964
Transactions on Power Apparatus & Systems 1968	Transactions on Power Apparatus & Systems 1963
Transactions on Power Apparatus & Systems 1967	Transactions on Communication & Electronics 1963
Transactions on Power Apparatus & Systems 1966	Transactions on Applications and Industry 1963
Transactions on Power Apparatus & Systems 1965	Transactions on Power Apparatus & Systems 1963

American Institute of Electrical Engineers

Vol. 81 - 1962 Parts I, II and III	Vol. 69 - 1950 Parts I and II	Vol. 59 - 1940
Vol. 80 - 1961 Parts I, II and III	Transactions Index 1939-1949 – American List	Vol. 58 - 1939
Vol. 79 - 1960 Parts I, II and III	Vol. 68 - 1949 Parts I and II	Vol. 57 - 1938
Vol. 78 - 1959 Parts I, II, III-A and III-B	Vol. 67 - 1948 Parts I and II	Vol. 56 - 1937
Vol. 77 - 1958 Parts I, II and III	Vol. 66 - 1947	Vol. 54 - 1935
Vol. 76 - 1957 Parts I, II and III	Vol. 65 - 1946	Vol. XLVI - 1927
Vol. 75 - 1956 Parts I, II and III	Vol. 64 - 1945	Vol. XLV - 1926
Vol. 74 - 1955 Parts I, II and III	Vol. 63 - 1944	Vol. XLIV - 1925
Vol. 73 - 1954 Parts I, II and III	Vol. 62 - 1943	Vol. XLII - 1923
Vol. 72 - 1953 Parts I and II	Vol. 61 - 1942	Vol. XLI - 1922
Vol. 70 - 1951 Parts I and II	Vol. 60 - 1941	

If you are interested in any of these, please contact Nancy Hayslip at (513) 287-3206.

Intertech 2000 Conference in June

The Sixth Interamerican Conference on Engineering and Technology Education (INTERTECH 2000) will be held in Cincinnati, Ohio USA from June 14–June 16, 2000. The conference will be hosted by the University of Cincinnati. The Theme of the conference: "Engineering Education in the Americas and the New Millennium".

INTERTECH offers a unique opportunity for the discussion of issues related to the needs and interests of Engineering and Technology Education in the Americas as well as the development of links with colleagues from the Americas and around the world.. It also provides, in many diverse technical and plenary sessions, a major forum for the exchange of information on research and development in all fields of Engineering.

The conference generates countless opportunities for technological and educational interchanges, fostering the implementation of projects related to student and faculty exchanges, joint research and technological training throughout the Americas.

INTERTECH 2000 will mark the 10th anniversary in the evolution of this organization. For more information including registration forms, please visit the conference web site at: <http://intertech2000.uc.edu/>

IEEE NEWS

IEEE EYE ON WASHINGTON - January 21, 2000

NOMINATIONS SOUGHT FOR PRESIDENTIAL SCIENCE, MATH AND ENGINEERING MENTORING AWARDS

The National Science Foundation is requesting nominations for the 2000 Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring. These awards (which are accompanied by a \$10,000 grant and Presidential certificate) honor individuals and institutions for outstanding mentoring efforts/programs designed to enhance the participation of groups underrepresented in science, mathematics and engineering. Nominations are due by April 14, 2000.

For a copy of the announcement, go to: <http://www.nsf.gov/cgi-bin/getpub?nsf0041>

FCC APPROVES LOW POWER FM RADIO SERVICE

On Jan. 20, the Federal Communications Commission voted to authorize two new classes of noncommercial low power FM radio services (LPFM). According to the FCC, these new services, LP 100 (50-100 watts and a service radius of 3.5 miles) and LP10 (1-10 watts and a service radius of 1-2 miles), are the best way to bring additional diversity to radio broadcasting and serve local community needs in a focused manner with LPFM stations.

The change was strongly supported by a broad assortment of interested parties including state and local government entities, religious groups, students, labor unions, and various community organizations. Music celebrities such as the Indigo Girls, Bonnie Raitt and Jackson Browne made low-power FM a clause celebre. The change was strongly opposed by the National Association of Broadcasters, however, which is concerned that low-power broadcasters would significantly add to signal interference across the radio dial.

To address the interference issue, the FCC announced that it will impose station separation requirements between new LPFM and existing radio stations on co-, 1st- and 2nd- adjacent and intermediate frequency (IF) channels. Engineering tests apparently convinced the Commissioners that 100 watt LPFM service would not cause unacceptable levels of interference to existing radio stations separated by three channels.

For related press release: <http://www.fcc.gov/mmb/prd/lpfm/>

IEEE-USA PARTICIPATION IN SYMPOSIUM HIGHLIGHTED IN *NEW YORK TIMES*

The Digital Commerce column appearing in the Jan. 31 NEW YORK TIMES cited IEEE-USA cosponsorship last fall of a workshop at Cornell University on broadband futures. According to the TIMES' piece by Denise Caruso, workshop participants concluded that "common carriage encourages the [communications] network to be everywhere and fully interconnected ... [and] would provide stability and thus significantly speed the development of the broadband market." To see the entire column, go to <http://www.nytimes.com>.

FIRST-QUARTER *TODAY'S ENGINEER* STRESSES COMMUNICATIONS SKILLS

The first-quarter 2000 TODAY'S ENGINEER, published by IEEE-USA with tips, strategies and solutions for fast-track technical professionals, includes the following articles:

"Beat the Clock": Unless engineers plan their time well and consistently use time management tools, they're setting themselves up for missed deadlines and higher stress.

"Six Sigma Management": more than just another management fad, General Electric has credited this process and product improvement approach with savings in excess of \$1 billion.

"Glass Ceilings and Sliding Doors": With fewer women entering the field and high attrition among those who do, the glass ceiling remains a serious issue.

"Two for the Road": Communication and problem solving are two skills that lie at the heart of everything engineers do; here's how you can refine them.

"E-mail Disasters": here's how to avoid terrible subject lines, overformatting, misplaced messages, and other common electronic communications blunders.

"Seen and Heard": Few ways to distinguish yourself from other engineers offer more impact than demonstrating effective presentation skills.

"Newsmakers: Building Young Engineers": Duke School of Engineering Dean Kristina Johnson talks about the school's \$35-million endowment and her commitment to preparing engineering students to meet the broad and complex challenges of the next century.

To see sample articles from the current TODAY'S ENGINEER and to subscribe, go to:
<http://www.todaysengineer.org>.

ANNOUNCEMENT AND CALL FOR PAPERS AND PARTICIPATION - INTERNATIONAL CONFERENCE ON COMMUNICATIONS, COMPUTERS & DEVICES

Dec. 14-16, 2000; Tutorials : Dec.14, 2000

Original contributions based on theoretical/simulation and experimental research, development, design, testing and measurement work are invited for presentation in the International Conference on Communications, Computers and Devices (ICCCD-2000).

This Conference is being organized by the Department of Electronics & Electrical Communication Engineering, IIT, Kharagpur on the eve of the Golden Jubilee of the Institute. Some review papers may also be accepted.

All papers will go through a process of review. Papers accepted and presented in the conference will be published in the proceedings. The topics of interest include but are not limited to

- | | | |
|---|------------------------------------|---------------------|
| * Telecommunications | *Computers | * Signal Processing |
| * Switching and Networking | * Electromagnetics | * Photonics |
| * Emerging & Next Generation Technologies | * Electron Devices & VLSI Circuits | |
| * Pattern Recognition & Computer Vision | | |

For more information, contact Professor C K Maiti, Publicity Chair or Professor S L Maskara, Technical Program & Publication Chair, Electronics & Electrical Communication Engineering Department I.I.T.,

IEEE EDUCATIONAL ACTIVITIES BOARD SEEKS NOMINATIONS FOR ANNUAL AWARDS PISCATAWAY, NJ, February 7, 2000 - The Educational Activities Board (EAB) of the IEEE is currently accepting nominations for the 2000 EAB Awards. The deadline for nominations is 15 May 2000. No extensions will be granted to this date. In June, the IEEE EAB Awards and Recognition Committee will review all nominees and decide upon recipients for the following awards:

- Meritorious Achievement Award in Accreditation Activities recognizes IEEE members for outstanding contributions in accreditation of engineering, engineering technology, and computer science programs.
- Meritorious Achievement Award in Continuing Education recognizes IEEE members for the design, delivery, or management of continuing education activities for IEEE members.
- Major Educational Innovation Award recognizes IEEE members for outstanding innovation in an educational field appropriate to the mission of the IEEE.
- Meritorious Service Citation recognizes IEEE members for outstanding and sustained service to the aims and objectives of the Educational Activities Board.
- Employer Professional Development Award recognizes organizations employing IEEE members for contributions to employee continuing education and professional development

Nomination packets must include the following materials:

- A nomination letter that details the achievements of the nominee
- A complete vita of the nominee (except for the Employer Professional Development Award)
- A cover sheet listing the name of the EAB award being sought for the nominee, and the name, address (both postal and e-mail), telephone and fax numbers of both the nominator and nominee and IEEE member number of candidate.
- Up to three letters of endorsement and not more than five pages of materials supporting the claims of contributions or achievements
- For the Accreditation, Continuing Education, and Innovation awards only: Please provide a proposed citation of 25 words or less

NOTE: For the Employer Professional Development Award, letters of endorsement must include at least one from an employee who is an IEEE member, which includes IEEE member number of employee and one from the director of the IEEE region in which the organization's contributions were made.

SPECIAL NOTE: Current members of the IEEE Educational Activities Board (EAB) or of the EAB Awards and Recognition committee may not be recipients, nominators, or endorsers of EAB awards.

Recipients and arrangements for presentation will be announced following the June IEEE EAB meeting. Each recipient will receive an engraved walnut and brass plaque commemorating this award. In addition, \$1000 will be given to each winner of the Meritorious Achievement Awards in Accreditation Activities and Continuing Education and the winner of the Major Educational Innovation Award.

Nomination materials should be received no later than May 15, 2000, by Rae Toscano, Manager, EAB Administration, via e-mail, r.toscano@ieee.org, or post: IEEE Educational Activities, 445 Hoes Lane, Piscataway, NJ, USA, 08855-1331. For more information email r.toscano@ieee.org, phone (732.562.5482), or fax (732.981.1686).

TUTORIALS FROM IEDM '99 NOW AVAILABLE ON VIDEO FROM IEEE

PISCATAWAY, NJ, February 15, 2000 – If you were unable to attend the International Electron Devices Meeting (IEDM) and want access to the tutorials that were given, the IEEE can help with these two video releases, recorded at the December 1999 meeting.

In *Sub-100nm CMOS*, a team of experts from North America and the Far East outline future challenges of CMOS scaling. This course identifies the growing challenges for CMOS scaling and elaborates on options being explored to meet future transistor requirements. The areas covered are new device structures, new materials and new ways of doing circuit design that will be needed to meet the technology requirements of sub-100nm CMOS.

5 Hrs. / 4 Videotapes + presentation notes

List Price: \$425.00 IEEE Member Price: \$275.00

IEEE Order # (for NTSC version): EV5538QVE; IEEE Order # (for PAL version): EV5539QVE

In the second video, *System-on-a-chip*, the trend to miniaturization and lower operating voltages permits an ever-increasing degree of functional integration with the potential for dramatic improvements in performance, cost and power at the systems level. This course addresses the different requirements and the methods to meld them together for a complete and meaningful single chip solution.

5 Hrs. / 4 Videotapes + presentation notes

List Price: \$425.00 IEEE Member Price: \$275.00

IEEE Order # (for NTSC version): EV5540QVE; IEEE Order # (for PAL version): EV5541QVE

Both videos can be ordered from the IEEE Customer Service Department, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA; by e-mail: customer-service@ieee.org; by phone: 1.800.678.4333; at our new site on the Web: <http://shop.ieee.org/store/> For further information on Education Activities check out our Website <http://www.ieee.org/eab>

IEEE-USA: SENATE H-1B BILL "WRONG APPROACH AT THE WRONG TIME"

WASHINGTON, February 9, 2000 -- "This H-1B proposal makes no sense," says IEEE-USA President Merrill W. Buckley, Jr. "To blow the lid off the H-1B cap that was raised temporarily just two years ago, before we've had a chance to see the National Academy of Sciences report that the Congress mandated, is like closing our eyes and putting the accelerator to the floor."

"The IEEE-USA believes strongly in ensuring a strong high tech workforce in the 21st century," said Buckley. "But this bill doesn't do that. Green cards, not guest worker visas, is the best way. We also need to make fundamental improvements in pre-college math and science education, to have lifelong learning and retraining to keep our workers in the cutting edge and better access for underrepresented groups: women, minorities, handicapped, economically disadvantaged and especially older Americans. "

"There isn't a single argument that can be made for this legislation, that does not work even better for permanent legal immigration. So why aren't we fixing what's broken?"

"Rather than increasing our dependence on indefinitely temporary guest workers, we believe that legal permanent residents and U.S. citizens should be the preferred source of the skilled workers America will need in the 21st century," Buckley said. "We look forward to real hearings in the House and Senate where the alternatives to this fatally-flawed guest worker program can be debated."

The IEEE Cincinnati Section Executive Committee
Member Names and Phone Numbers

Cincinnati Section Voice Mail	629-9380 (call for meeting reservations)
Section Web Page	Http://ieee.cincinnati.fuse.net/
Ron Harbaugh - Chairman	352-2941, Ron.Harbaugh@CinPD.RCC.ORG (E-mail)
Tom Grou - Vice Chairman	tag-inc@mindspring.com (E-mail)
Orest Melnyk - Treasurer	397-5419, o.melnik@ieee.org (E-mail)
Jim Everly - PACE Chairman	556-4241, James.Everly@UC.Edu (E-mail)
Laurie Tappel - Secretary	397-6383, ltappel@cinbell.com (E-mail)
Steve Olenick - Member-At-Large	860-3456, Ext. 138, steveo@nova-eng.com (E-mail)
Mark Strong - Member-At-Large	397-0304, m.strong@ieee.org (E-mail)
Jack Beckmeyer - Arrangements Chairman	353-3834, j.beckmeyer@ieee.org (E-mail)
Randy Holt – Membership	572-5710 (Office), HOLTHR@NKU.EDU (E-mail)
Bob Morrison - Editor	287-3697 (Office), 287-4155 (Fax), j.r.morrison@ieee.org (E-mail)

MARCH 2000

IEEE CINCINNATI SECTION NEWSLETTER